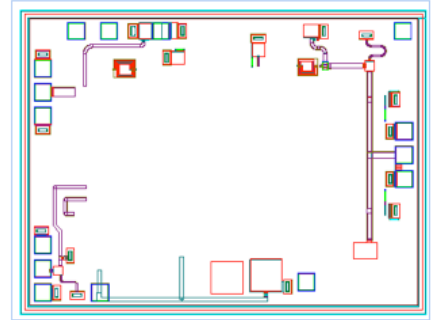


24 - 28GHz Transceiver Integrated Multi-Function Chip



Key Features :

- Receiver frequency : 24 – 28GHz
- Receiver gain : 25dB
- Receiver noise : 3.25dB
- Receiver output power at P-1 : 4dBm
- Receiver input/output standing wave : 1.8
- Transmitter frequency : 24 – 28GHz
- Transmitter small signal gain : 26dB
- Transmitter power gain : 19dB
- Transmitter saturated output power : 24dBm
- Saturated power additive efficiency : $\geq 29\%$
- Transmit input standing wave : 1.5
- Chip dimensions : 2.45mm x 1.8mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT1317 is a high performance transceiver multi-function chip, frequency range is 24 – 28GHz, receiver channel gain is 25dB, noise figure is 3.25dB, transmitter channel small signal gain is 26dB, and transmitter saturated output power is 24dBm. It is designed by Gallium Arsenide (GaAs) process. This chip is designed with ground through metal vias on the back technology. All chip products p are 100% RF tested.

Absolute Maximum Ratings (Ta = 25°C)

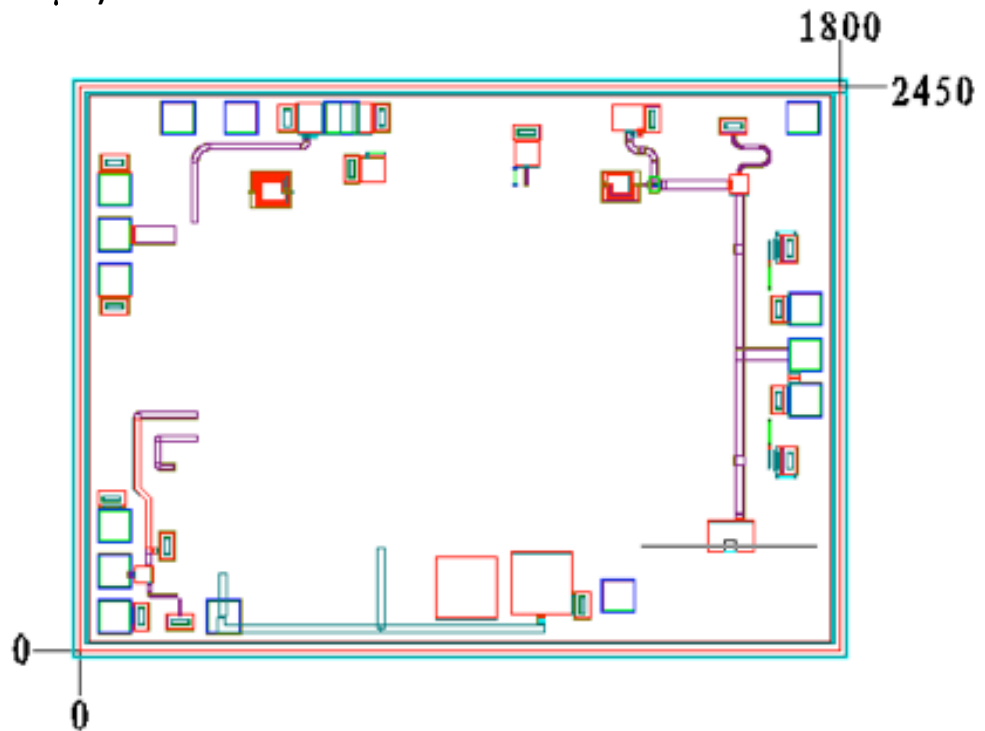
Symbol	Parameter	Value	Remark
VD	Drain voltage	+7V	
Pin	Max. Input Signal Power	12dBm	
Tch	Operation Temperature	150°C	
Tm	Sintering Temperature	310°C	30s, N ₂ protection
Tstg	Storage Temperature	-65 ~ +150°C	

[1] Operation outside any of the Absolute Maximum Ratings may cause permanent device damage.

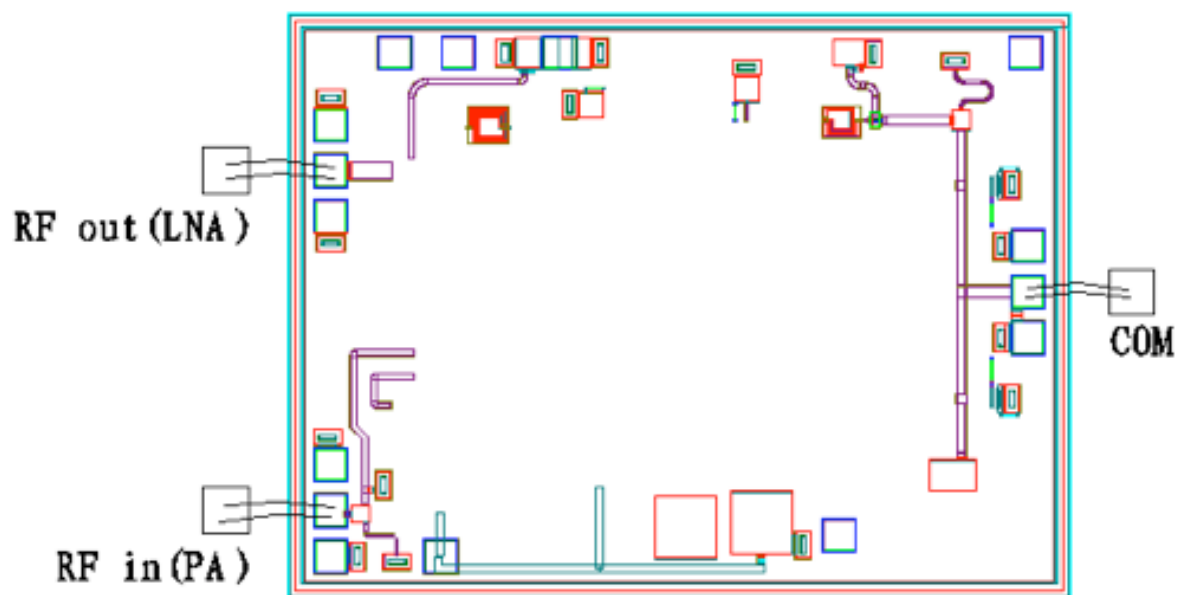
Electrical Characteristics (Ta = 25°C)

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
G _R	Receiver gain	VD2 = +5V F : 24 ~ 28GHz SW1 = 0V SW2 = -5V	-	25	-	dB
NF	Receiver noise figure		-	3.25	-	dB
VSWR _{RX}	Receiver input standing wave		-	1.7	-	-
VSWR _{RX}	Receiver output standing wave		-	1.8	-	-
P _{R-1dB}	Receiver output power at P-1 point		-	4	-	dBm
I	Receiver current		-	11	-	mA
G	Transmitter power gain	VD1 = +5V VG = -0.5V F : 24 ~ 28GHz SW1 = -5V SW2 = 0V	-	19	-	dB
VSWR _{TX}	Transmitter input standing wave		-	1.5	-	-
VSWR _{TX}	Transmitter output standing wave		-	2	-	-
P _{SAT}	Transmitter saturated output power		-	24	-	dBm
I	Transmitter static current		-	0.25	-	A

Chip Dimensions (Unit : μm)



Chip Layout Diagram



Please see appendix A for details.